

Table 2 Effects of Cannabis on Reproductive Hormone Levels

Parameter	Results	Conditions	Authors
Follicle Stimulating Hormone (FSH)	No change in plasma FSH levels	Four healthy male subjects with a history of frequent marijuana use administered two marijuana cigarettes per day for three consecutive days	Cone et al. ²⁷
	No change in plasma FSH levels	Rats injected with THC into third cerebral ventricle	Wenger et al. ²⁸
	No change in plasma FSH levels	Ten male chronic marijuana users given GnRH intravenously	Vesçovi et al. ²⁹
	Depression in FSH levels in the group using ten or more marijuana cigarettes per week	Group of 11 men using five to nine marijuana cigarettes per week and a group of nine men using ten or more marijuana cigarettes per week smoking at least four days a week for six months	Kolodny et al. ¹²
Luteinizing Hormone (LH)	Reduction in plasma LH levels	Four healthy male subjects with a history of frequent marijuana use administered two marijuana cigarettes per day for three consecutive days	Cone et al. ²⁷
	Reduction in plasma LH levels	Rats injected with THC into third cerebral ventricle	Wenger et al. ²⁸
		Ten male chronic marijuana users given GnRH intravenously	Vesçovi et al. ²⁹
	No change observed in plasma LH levels between groups	Group of 11 men using five to nine marijuana cigarettes per week and a group of nine men using ten or more marijuana cigarettes per week smoking at least four days a week for six months	Kolodny et al. ¹²
	CB1 receptor located in LH-secreting gonadotrophic cells in the anterior pituitary gland	Polyclonal antibodies against CB1 and CB2 used to localize cells expressing cannabinoid receptors	Wenger et al. ³¹
	Decreased LH secretion observed in wildtype mice, while LH levels were unchanged in CB1 knockout mice	CB1 knockout mice and wildtype mice administered AEA	Wenger et al. ³²
Testosterone	Dose dependent reduction in plasma testosterone levels	Group of 11 men using five to nine marijuana cigarettes per week and a group of nine men using ten or more marijuana cigarettes per week smoking at least four days a week for six months	Kolodny et al. ¹²

Decreased testicular testosterone synthesis was observed with acute dosing and an even larger reduction was seen in chronic dosing	Rats dosed acutely with 10 mg/kg of THC and rats dosed chronically with THC at 2 mg/kg	List et al. ³³
Significant decline in circulating testosterone	3-6 mg/kg of bhang administered to mice for 36 days	Banerjee et al. ¹⁰
Testosterone was suppressed in wildtype mice but not in CB1 knockout mice	CB1 knockout mice and wildtype mice administered AEA	Wenger et al. ³¹
No change in plasma testosterone levels	27 chronic marijuana users administered marijuana for a 21-day period	Mendelson et al. ³⁴
Insignificant depression in free testosterone levels	Four healthy male subjects with a history of frequent marijuana use administered two marijuana cigarettes per day for three consecutive days	Cone et al. ²⁷
No change in plasma testosterone levels	66 Pakistani men who regularly smoke cannabis or consume cannabis tea	Friedrich et al. ³⁵
Elevated testosterone levels were observed but this could not be separated from the effect of tobacco smoking alone	1,215 Danish men who report using marijuana more than once per week	Gundersen et al. ¹³
No difference in serum testosterone observed between ever and never users of marijuana, but an inverse association between time since last regular use of marijuana and testosterone levels was observed	1,577 men reporting data in the 2011-2012 U.S. National Health and Nutrition survey	Thistle et al. ³⁶
